

A NEW SPECIES OF *PIPER* (PIPERACEAE) FROM CENTRAL AMERICA

Piper calcariformis M. Tebbs, sp. nov. TYPE: Costa Rica. Alajuela: Finca Los Ensayos, NW of Zarcero, 850 m, *Croat* 43546 (holotype, MO; isotype, BM). Figure 1.

Frutex 1–2 m altus. Folia oblongo-ovata apice acuta basin cordata lobis interdum inaequalibus. Petiolus vaginatus spica pendula, bracteis triangularibus, basin versus longe calcariformibus.

Shrub 1–2 m high, the stems shortly pubescent. Leaves 16–24(–28) cm long, 10–17(–21) cm wide, ovate-oblong, glabrous or with short sparse hairs on upper surface, pilose on veins beneath, the apex acute, the base cordate and sometimes with one lobe slightly longer than the other; secondary veins 4–6, arcuate-ascending towards apex; petiole sheathing, pubescent, 4–9 cm long. Inflorescence pendulous, 10–18 cm long, 7–10 mm wide in fruit, the peduncles 2–4 cm long. Floral bracts 2 mm long, triangular, sparsely to densely pubescent with lower part elongated into a long spurlike process. Anthers 0.8–1 mm long, dehiscing laterally; filaments 1–1.2 mm long. Style 3–4 mm long; stigmas 3, recurved. Fruit 1–1.5 mm long, round-oblong.

Additional specimens examined. PANAMA. BOCAS DEL TORO: *McPherson* 7362, 8658 (MO). CHIRIQUÍ:

Knapp & Vodicka 5519 (MO); *Correa et al.* 2113 (MO). VERAGUAS: *Croat* 27695, 27726 (MO); *Mori & Kallunki* 2586, 3891, 3896 (MO).

Distribution. In moist forest from 400 to 1,200 m in the Cordillera Central in Costa Rica and in the Serranía de Tabasara in Panama. Only one collection from Costa Rica, the majority of specimens coming from Panama.

Piper calcariformis is most closely related to *P. sagittifolium* C. DC. and shares similarities of inflorescence, bract and fruit shape. However, it can be separated easily from the latter by its ovate-oblong as opposed to sagittate leaves, its much longer, pendulous inflorescence, and by its styles with three stigmas rather than two as in *P. sagittifolium*. Both of these species can be separated from the rest of *Piper* by their distinctive inflorescences with unusually shaped bracts. They are related to the large-leaved pipers with long pendulous inflorescences of section *Macrostachys* Miquel.

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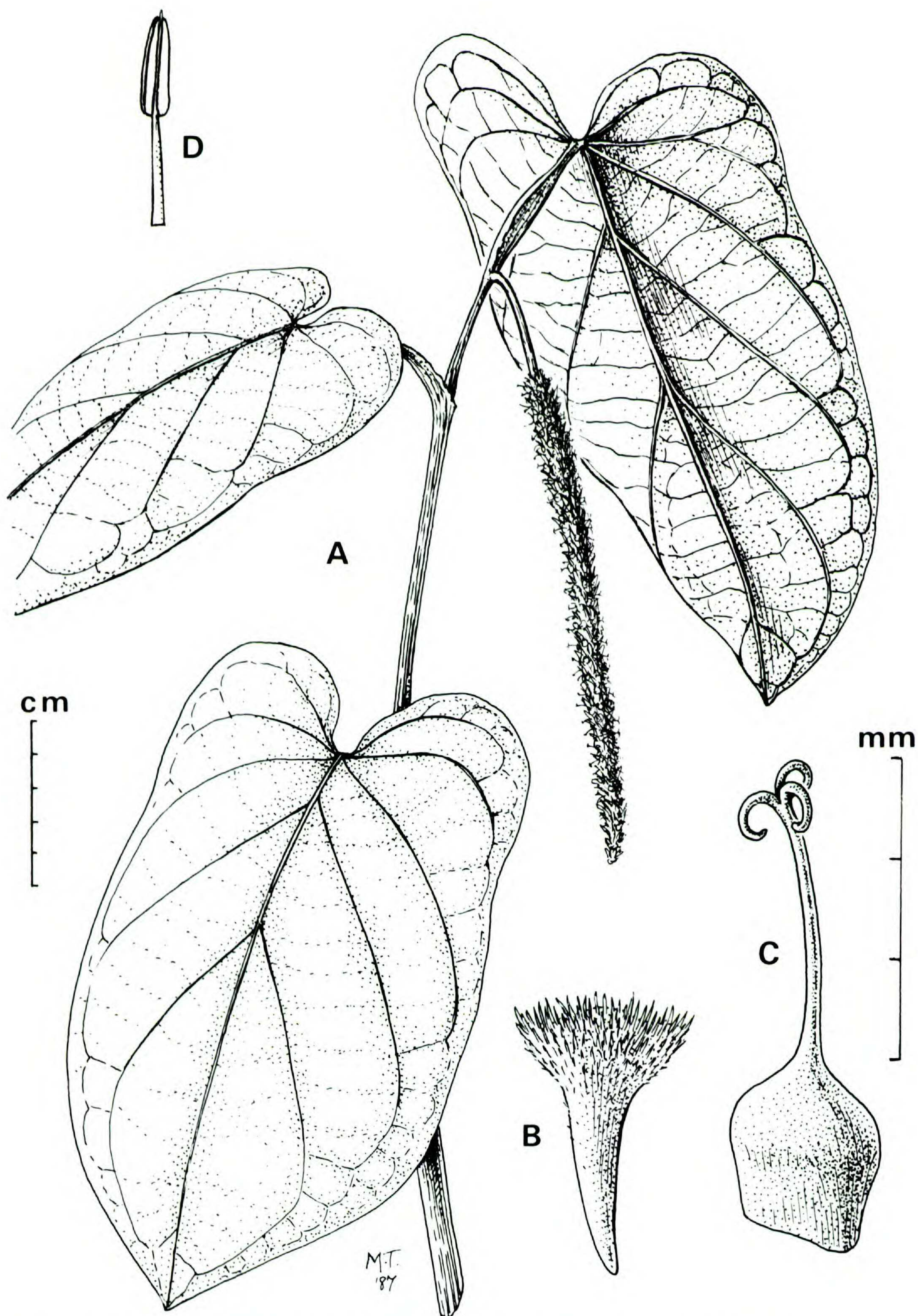


FIGURE 1. *Piper calcariformis* (Croat 43546).—A. Habit.—B. Bract.—C. Fruit.—D. Stamen.